

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A signal ~~processing process~~ system for recording and reproducing content information on a record medium ~~having a record and reproduction apparatus that reads information from a record medium and records information thereto, and an information process apparatus to which the record and reproduction apparatus is connected through transfer means, content information being encrypted according to content information encryption method~~ using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the system comprising: content information being recorded to the record medium,

~~wherein the~~ a record and reproduction apparatus including, comprises:

~~storage means for storing~~ an electronic storage unit configured to store the first encrypted key,

a second encrypted key decryption unit configured to decrypt ~~means for reproducing~~ the second encrypted key encrypted and recorded on the record medium, the second encrypted key being decrypted ~~and for decrypting the second encrypted key~~ with the first encrypted key,

a third encrypted key generator configured to generate ~~generation means for generating~~ the third encrypted key,

an encryption ~~means for encrypting~~ unit configured to encrypt the third encrypted key with the decrypted second encrypted key,

a communication port configured to connect the record and reproduction apparatus to another device,

an authentication unit configured to authenticate ~~means for authenticating the~~
~~other device information process apparatus~~ and generating ~~generate~~ a session key
when the other device is successfully authenticated ~~the authentication means has~~
~~successfully authenticated the information process apparatus,~~

a first bus-encryption unit configured to further encrypt, with the session key,
~~means for bus-encrypting~~ the second encrypted key that has been encrypted and
recorded on the record medium ~~with the session key~~ and configured to transfer
~~transferring the~~ further encrypted ~~bus-encrypted~~ second encrypted key to the other
device information process apparatus,

a second bus-encryption unit configured to further encrypt ~~means for bus-~~
~~encrypting~~ the third encrypted key with the session key and configured to transfer the
further encrypted ~~transferring the bus-encrypted~~ third encrypted key to the other
device information process apparatus,

a bus-decryption unit configured to decrypt ~~means for bus-decrypting~~
~~encrypted and bus-encrypted~~ content information encrypted with the session key and
the third encrypted key and supplied from the ~~information process apparatus,~~ and

a recorder configured to record ~~means for recording~~ the third encrypted key
and the encrypted content information to the record medium; [[,]] and

~~wherein the~~ an information processing process apparatus connected to the
communication port of the record and reproduction apparatus, the information processing
apparatus including, comprises:

an electronic storage unit configured to store ~~means for storing~~ the first
encrypted key,

an authentication unit configured to authenticate ~~means for authenticating the~~
record and reproduction apparatus and configured to generate ~~generating~~ the session

key when the record and reproduction apparatus is authentication means has successfully authenticated ~~the record and reproduction apparatus~~,

a first bus-decryption unit configured to decrypt ~~means for bus-decrypting~~ the ~~bus-encrypted~~ second encrypted key encrypted with the session key,

a decryption unit configured to further decrypt ~~means for decrypting~~ the second encrypted key with the first encrypted key,

a second bus-decryption unit configured to decrypt ~~means for bus-decrypting~~ the ~~bus-encrypted~~ third encrypted key encrypted with the session key,

a decryption unit configured to further decrypt ~~means for decrypting~~ the third encrypted key with the second encrypted key,

an encryption unit configured to encrypt with the third encrypted key ~~means for encrypting~~ the content information transferred to the record and reproduction apparatus ~~with the third encryption~~, and

a bus-encryption unit configured to further encrypt ~~means for bus-encrypting~~ the encrypted content information with the session key and configured to send ~~sending~~ the bus-encrypted content information to the record and reproduction apparatus.

Claim 2 (Currently Amended): The signal processing ~~process~~ system as set forth in claim 1, wherein the authentication unit ~~means~~ of the record and reproduction apparatus and the authentication unit ~~means~~ of the information processing ~~process~~ apparatus mix a random number transferred from the record and reproduction apparatus to the information processing ~~process~~ apparatus with information about ~~a type of~~ the record medium, when the authentication unit ~~means~~ of the record and reproduction apparatus and the authentication

unit means of the information processing process apparatus exchange the generated random number data therebetween.

Claim 3 (Currently Amended): The signal processing process system as set forth in claim 1, wherein the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus mix a random number transferred from the record and reproduction apparatus to the information processing process apparatus with information about copyright, when the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus exchange the generated random number data therebetween.

Claim 4 (Currently Amended): The signal processing process system as set forth in claim 1, ~~further comprising:~~ wherein the record and reproduction unit includes a mask control unit configured to control masking of means for the third encrypted key, and wherein only the third encrypted key is written to the record medium when the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus have mutually and successfully authenticated each other, ~~the third encrypted key can be written to the record medium.~~

Claim 5 (Currently Amended): A signal processing process system for recording and reproducing content information on a recording medium ~~having a record and reproduction apparatus that reads information from a record medium and records information thereto, and an information process apparatus to which the record and reproduction apparatus is connected through transfer means, content information being encrypted according to a content information encryption method~~ using a first encrypted key managed by a management

mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the system comprising: content information being recorded to the record medium,

wherein the a record and reproduction apparatus including, comprises:

a storage unit configured to store means for storing the first encrypted key,

a second encrypted key generation unit configured to generate means for
generating the second encrypted key,

an encryption unit configured to encrypt means for encrypting the generated
second encrypted key with the first encrypted key,

a third encrypted key generation unit configured to generate means for
generating the third encrypted key,

an encryption unit configured to encrypt means for encrypting the third
encrypted key with the generated second encrypted key,

a communication port configured to connect the record and reproduction
apparatus to another device,

an authentication unit configured to authenticate the device connected to the
communication port, the authentication unit means for authenticating the information
process apparatus and generating a session key when the device connected to the
communication port is authentication means has successfully authenticated the
information process apparatus,

a first bus-encryption means unit configured to further encrypt for bus-
encrypting the second encrypted key with the session key and configured to transfer
transferring the further encrypted bus-encrypted second encrypted key to the device
connected to the communication port information process apparatus,

a second bus-encryption unit configured to further encrypt ~~means for bus-~~
~~encrypting~~ the third encrypted key with the session key and configured to transfer
~~transferring~~ the further encrypted ~~bus-encrypted~~ third encrypted key to the device
connected to the communication port ~~information process apparatus,~~

a bus-decryption unit configured to decrypt ~~means for bus-decrypting the~~
~~encrypted and bus-encrypted~~ content information encrypted with the third encrypted
key and the session key, and supplied from the device connected to the
communication port ~~information process apparatus, and~~

a record unit configured to record ~~means for recording~~ the second encrypted
key, the third encrypted key, and the encrypted content information to the record
medium; [[,]] and

~~wherein the~~ an information process apparatus including ~~comprises:~~

a storage unit configured to store ~~means for storing~~ the first encrypted key,

an authentication unit configured to authenticate ~~means for authenticating~~ the
record and reproduction apparatus and configured to generate ~~generating~~ the session
key when the ~~authentication means has successfully authenticated the record and~~
reproduction apparatus is authenticated,

a first bus-decryption unit configured to decrypt ~~means for bus-decrypting~~ the
~~bus-encrypted~~ second encrypted key with the session key,

a decryption unit configured to further decrypt ~~means for decrypting~~ the
second encrypted key with the first encrypted key,

a second bus-decryption unit configured to decrypt ~~means for bus-decrypting~~
the ~~bus-encrypted~~ third encrypted key with the session key,

a decryption unit configured to further decrypt ~~means for decrypting~~ the third
encrypted key with the second encrypted key,

an encryption unit configured to encrypt ~~means for encrypting~~ the content information transferred to the record and reproduction apparatus with the third encryption key, and

a bus-encryption unit configured to further encrypt ~~means for bus-encrypting~~ the encrypted content information with the session key and configured to send the further encrypted ~~sending the bus-encrypted~~ content information to the record and reproduction apparatus.

Claim 6 (Currently Amended): The signal processing ~~process~~ system as set forth in claim 5, wherein the authentication unit ~~means~~ of the record and reproduction apparatus and the authentication unit ~~means~~ of the information processing ~~process~~ apparatus mix a random number transferred from the record and reproduction apparatus to the information processing ~~process~~ apparatus with information about a ~~type of~~ the record medium, when the authentication unit ~~means~~ of the record and reproduction apparatus and the authentication unit ~~means~~ of the information processing ~~process~~ apparatus exchange the ~~generated~~ random number ~~data~~ therebetween.

Claim 7 (Currently Amended): The signal processing ~~process~~ system as set forth in claim 5, wherein the authentication unit ~~means~~ of the record and reproduction apparatus and the authentication unit ~~means~~ of the information processing ~~process~~ apparatus mix a random number transferred from the record and reproduction apparatus to the information processing ~~process~~ apparatus with information about copyright when the authentication unit ~~means~~ of the record and reproduction apparatus and the authentication unit ~~means~~ of the information processing ~~process~~ apparatus exchange the ~~generated~~ random number ~~data~~ therebetween.

Claim 8 (Currently Amended): The signal process system as set forth in claim 5, ~~further comprising: wherein the record and reproduction unit include a first mask control unit configured to control masking of means for the third encrypted key, and a second mask control unit configured to control masking of means for the second encrypted key, the third encrypted key and the second encrypted key being written to the record medium wherein only~~ when the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus have mutually and successfully authenticated each other, ~~the third encrypted key and the second encrypted key can be written to the record medium.~~

Claim 9 (Currently Amended): A signal processing process system for recording and reproducing content information on a recording medium ~~having a record and reproduction apparatus that reads information from a record medium and records information thereto, and an information process apparatus to which the record and reproduction apparatus is connected through transfer means, content information being encrypted according to a content information encryption method~~ using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the system comprising: content information being recorded to the record medium,

~~wherein the a record and reproduction apparatus including comprises:~~

an electronic storage unit configured to store means for storing the first encrypted key,

a second encrypted key decryption unit configured to reproduce means for ~~reproducing~~ the second encrypted key encrypted and recorded on the record medium

and configured to decrypt ~~for decrypting~~ the second encrypted key with the first encrypted key,

a third encrypted key generation unit configured to generate ~~means for generating~~ the third encrypted key,

an encryption unit configured to encrypt ~~means for encrypting~~ the third encrypted key with the decrypted second encrypted key,

a communication port configured to connect the record and reproduction apparatus to another device,

an authentication unit configured to authenticate the other device ~~means for authenticating the information process apparatus and configured to generate~~ ~~generating~~ a session key when the other device is authentication ~~means has~~ successfully authenticated ~~the information process apparatus,~~

a bus-decryption unit configured to decrypt, with the session key, ~~means for bus-decrypting the bus-encrypted~~ content information supplied from the information process apparatus,

an encryption unit configured to encrypt ~~means for encrypting~~ the content information with the third encrypted key, and

a record unit configured to record ~~means for recording~~ the third encrypted key and the encrypted content information to the record medium; [[,]] and

~~wherein the~~ an information processing process apparatus including, ~~comprises:~~

an authentication unit configured to authenticate ~~means for authenticating~~ the record and reproduction apparatus and configured to generate ~~generating~~ the session key when ~~the information process apparatus has successfully authenticated~~ the record and reproduction apparatus is successfully authenticated, and

a bus-encryption unit configured to encrypt ~~means for bus-encrypting~~ content information transferred to the record and reproduction apparatus with the session key and configured to send the encrypted ~~sending the bus-encrypted~~ content information to the record and reproduction apparatus.

Claim 10 (Currently Amended): The signal processing process system as set forth in claim 9, wherein the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus mix a random number transferred from the record and reproduction apparatus to the information processing process apparatus with information about ~~a type of~~ the record medium when the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus exchange the ~~generated~~ random number ~~data~~ therebetween.

Claim 11 (Currently Amended): The signal processing process system as set forth in claim 9, wherein the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus mix a random number transferred from the record and reproduction apparatus to the information processing process apparatus with information about copyright when the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus exchange the ~~generated~~ random number ~~data~~ therebetween.

Claim 12 (Currently Amended): The signal processing process system as set forth in claim 9, ~~further comprising:~~ wherein the record and reproduction apparatus includes a mask control unit configured to control masking of ~~means for~~ the third encrypted key, the third

encrypted key being written to the record medium ~~wherein only~~ when the authentication unit ~~means~~ of the record and reproduction apparatus and the authentication unit ~~means~~ of the information processing ~~process~~ apparatus have mutually and successfully authenticated each other, ~~the third encrypted key can be written to the record medium.~~

Claim 13 (Currently Amended): A signal processing ~~process~~ system for recording and reproducing content information on a recording medium ~~having a record and reproduction apparatus that reads information from a record medium and records information thereto, and an information process apparatus to which the record and reproduction apparatus is connected through transfer means, content information being encrypted according to a content information encryption method~~ using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the system comprising: content information being recorded to the record medium,

~~wherein the~~ a record and reproduction apparatus including, ~~comprises:~~

an electronic storage unit configured to store ~~means for storing~~ the first encrypted key,

a second encrypted key generation unit configured to generate ~~means for~~ ~~generating~~ the second encrypted key,

an encryption unit configured to encrypt ~~means for encrypting~~ the generated second encrypted key with the first encrypted key,

a third encrypted key generation unit configured to generate ~~means for~~ ~~generating~~ the third encrypted key,

an encryption unit configured to encrypt ~~means for encrypting~~ the third encrypted key with the generated second encrypted key,

a communication port configured to connect the record and reproduction apparatus to another device,

an authentication unit configured to authenticate the other device ~~means for authenticating the information process apparatus and configured to generate~~ generating a session key when the other device is authentication ~~means has~~ successfully authenticated ~~the information process apparatus,~~

a bus-decryption unit configured to decrypt ~~means for bus-decrypting the bus-~~ ~~encrypted~~ content information encrypted with the session key and supplied from the other device ~~information process apparatus,~~

an encryption unit configured to encrypt ~~means for encrypting~~ the content information with the third encrypted key, and

a record unit configured to record ~~means for recording~~ the second encrypted key, the third encrypted key, and the encrypted content information to the record medium; [[,]] and

~~wherein the~~ an information processing process apparatus including, ~~comprises:~~

an authentication unit configured to authenticate ~~means for authenticating~~ the record and reproduction apparatus and configured to generate ~~generating~~ the session key when ~~the information process apparatus has successfully authenticated~~ the record and reproduction apparatus is successfully authenticated, and

a bus-encryption unit configured to encrypt ~~means for bus-encrypting~~ content information with the session key and configured to send the encrypted ~~sending the~~ ~~bus-encrypted~~ content information to the record and reproduction apparatus.

Claim 14 (Currently Amended): The signal processing process ~~process~~ system as set forth in claim 13, wherein the authentication unit ~~means~~ of the record and reproduction apparatus and

the authentication unit means of the information processing process apparatus mix a random number transferred from the record and reproduction apparatus to the information processing process apparatus with information about ~~a type of~~ the record medium when the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus exchange the ~~generated~~ random number ~~data~~ therebetween.

Claim 15 (Currently Amended) The signal process system as set forth in claim 13, wherein the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus mix a random number transferred from the record and reproduction apparatus to the information processing process apparatus with information about copyright when the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus exchange the ~~generated~~ random number ~~data~~ therebetween.

Claim 16 (Currently Amended): The signal process system as set forth in claim 13, ~~further comprising: wherein the record and reproduction apparatus includes a~~ first mask control unit configured to control masking of means for the third encrypted key, and ~~a~~ second mask control unit configured to control masking of means for the second encrypted key, the third encrypted key and the second encrypted key being written to the record medium ~~wherein only~~ when the authentication unit means of the record and reproduction apparatus and the authentication unit means of the information processing process apparatus have mutually and successfully authenticated each other, ~~the third encrypted key and the second encrypted key can be written to the record medium.~~

Claim 17 (Currently Amended): A record and reproduction apparatus, ~~that is~~
connected to an information processing process apparatus, for reading and recording, to a
record medium, through transfer means and that reads information from a record medium and
~~records content~~ information thereto, content information ~~being~~ encrypted according to
~~content information encryption method~~ using a first encrypted key managed by a
management mechanism, a second encrypted key unique to the record medium, and a third
encrypted key generated whenever information is recorded, ~~the content information being~~
~~recorded to the record medium~~, the record and reproduction apparatus comprising:

a storage unit configured to store means for storing the first encrypted key; [[,]]

a second encrypted key decryption unit configured to reproduce means for
~~reproducing~~ the second encrypted key encrypted and recorded on the record medium and
configured to decrypt for decrypting the second encrypted key with the first encrypted key;
[[,]]

a third encrypted key generation unit configured to generate means for generating the
third encrypted key; [[,]]

an encryption unit configured to encrypt means for encrypting the third encrypted key
with the decrypted second encrypted key; [[,]]

an authentication unit configured to authenticate means for authenticating the
information processing process apparatus and configured to generate generating a session key
when the ~~authentication means has successfully authenticated~~ the information processing
process apparatus is successfully authenticated; [[,]]

a first bus-encryption unit configured to further encrypt, with the session key, means
~~for bus-encrypting~~ the second encrypted key that has been encrypted and recorded on the
record medium ~~with the session key~~ and configured to transfer the further encrypted

~~transferring the bus-encrypted~~ second encrypted key to the information processing process apparatus; [[,]]

a second bus-encryption unit configured to further encrypt ~~means for bus-encrypting~~ the third encrypted key with the session key and configured to transfer the further encrypted ~~transferring the bus-encrypted~~ third encrypted key to the information processing process apparatus; [[,]]

a bus-decryption unit configured to decrypt, with the session key, ~~means for bus-~~ ~~decrypting encrypted and bus-encrypted~~ content information encrypted with both the session key and the third encrypted key and supplied from the information processing process apparatus; and [[,]]

a record unit configured to record ~~means for recording~~ the third encrypted key and the encrypted content information to the record medium,

wherein the ~~encrypted and bus-encrypted~~ content information is encrypted with the third encrypted key and the encrypted content information is further encrypted ~~bus-encrypted~~ with the session key generated by the information processing process apparatus.

Claim 18 (Currently Amended): The record and reproduction apparatus as set forth in claim 17, wherein the authentication unit ~~means~~ mixes a random number, that is also transferred to the information processing process apparatus, with information about ~~a type of~~ the record medium when the authentication unit ~~means~~ exchanges random number data with the information processing process apparatus.

Claim 19 (Currently Amended): The record and reproduction apparatus as set forth in claim 17, further comprising:

a mask control unit configured to control masking of ~~means for~~ the third encrypted key, the third encrypted key being written to the record medium ~~wherein only~~ when the authentication unit ~~means~~ has successfully authenticated the information processing ~~process~~ apparatus, ~~the third encrypted key can be written to the record medium.~~

Claim 20 (Currently Amended): A record and reproduction apparatus, ~~that is~~ connected to an information processing ~~process~~ apparatus, for reading and recording, to a record medium, ~~through transfer means and that reads information from a record medium and records content information thereto,~~ content information ~~being~~ encrypted according to ~~content information encryption method~~ using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, ~~the content information being recorded to the record medium,~~ the record and reproduction apparatus comprising:

a storage unit configured to store ~~means for storing~~ the first encrypted key; [[,]]

a second encrypted key generation unit configured to generate ~~means for generating~~ the second encrypted key; [[,]]

an encryption unit configured to encrypt ~~means for encrypting~~ the generated second encrypted key with the first encrypted key; [[,]]

a third encrypted key generation unit configured to generate ~~means for generating~~ the third encrypted key; [[,]]

an encryption unit configured to encrypt ~~means for encrypting~~ the third encrypted key with the ~~generated~~ second encrypted key; [[,]]

an authentication unit configured to authenticate ~~means for authenticating~~ the information processing ~~process~~ apparatus and configured to generate ~~generating~~ a session key

when the ~~authentication means has successfully authenticated~~ the information processing process apparatus is successfully authenticated; [[,]]

a first bus-encryption unit configured to further encrypt ~~means for bus-encrypting~~ the second encrypted key with the session key and configured to transfer ~~transferring~~ the bus-encrypted second encrypted key to the information processing process apparatus; [[,]]

a second bus-encryption unit configured to further encrypt ~~means for bus-encrypting~~ the third encrypted key with the session key and configured to transfer ~~transferring~~ the bus-encrypted third encrypted key to the information processing process apparatus; [[,]]

a bus-decryption unit configured to decrypt, with the session key, ~~means for bus-decrypting the encrypted and bus-encrypted~~ content information encrypted with both the third encrypted key and the session key and supplied from the information processing process apparatus; [[,]] and

a record unit configured to record ~~means for recording~~ the second encrypted key, the third encrypted key, and the encrypted content information to the record medium,

wherein the ~~encrypted and bus-encrypted~~ content information is encrypted with the third encrypted key and the encrypted content information is ~~bus-encrypted~~ further encrypted with the session key generated by the information processing process apparatus.

Claim 21 (Currently Amended): The record and reproduction apparatus as set forth in claim 20, wherein the authentication unit ~~means~~ mixes a random number, transferred to the information process apparatus, with information about ~~a type of~~ the record medium when the authentication unit ~~means~~ exchanges random number data with the information processing process apparatus.

Claim 22 (Currently Amended): The record and reproduction apparatus as set forth in claim 20, further comprising:

a first mask control unit configured to control masking of means for the third encrypted key; [[,]] and

a second mask control unit configured to control masking of means for the second encrypted key,

wherein only the third encrypted key and the second encrypted key are written to the record medium when the authentication means has successfully authenticated the information processing process apparatus, ~~the third encrypted key and the second encrypted key can be written to the record medium.~~

Claim 23 (Currently Amended): A record and reproduction apparatus, ~~that is~~ connected to an information processing process apparatus, for reading and recording, to a record medium, through transfer means and that reads information from a record medium and records content information thereto, content information being encrypted according to ~~content information encryption method~~ using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, ~~the content information being recorded to the record medium,~~ the record and reproduction apparatus comprising:

an electronic storage unit configured to store means for storing the first encrypted key; [[,]]

a second encrypted key decryption unit configured to reproduce means for ~~reproducing~~ the second encrypted key encrypted and recorded to the record medium and configured to decrypt for decrypting the second encrypted key with the first encrypted key; [[,]]

a third encrypted key generation unit configured to generate ~~means for generating~~ the third encrypted key; [[,]]

an encryption unit configured to encrypt ~~means for encrypting~~ the third encrypted key with the decrypted second encrypted key; [[,]]

an authentication unit configured to authenticate ~~means for authenticating~~ the information processing process apparatus and configured to generate ~~generating~~ a session key when the ~~authentication means has successfully authenticated the~~ information processing process apparatus is successfully authenticated; [[,]]

a bus-decryption unit configured to decrypt ~~means for bus-decrypting the bus-~~ encrypted content information encrypted with the session key and supplied from the information processing process apparatus; [[,]]

an encryption unit configured to encrypt ~~means for encrypting~~ the content information with the third encrypted key; [[,]] and

a record unit configured to record ~~means for recording~~ the third encrypted key and the encrypted content information to the record medium,

wherein the ~~bus-encrypted~~ content information is encrypted with the third encrypted key and the session key ~~the encrypted content information that has been bus-encrypted with the session key~~ generated by the information process apparatus.

Claim 24 (Currently Amended): The record and reproduction apparatus as set forth in claim 23, wherein the authentication unit ~~means~~ mixes a random number, that is also transferred to the information process apparatus, with information about a ~~type of~~ the record medium when the authentication unit ~~means~~ exchanges random number data with the information processing process apparatus.

Claim 25 (Currently Amended): The record and reproduction apparatus as set forth in claim 23, further comprising:

a mask control unit configured to control masking of means for the third encrypted key,

wherein the third encrypted key is written to the record medium only when the authentication means has successfully authenticated the information processing process apparatus, ~~the third encrypted key can be written to the record medium.~~

Claim 26 (Currently Amended): A record and reproduction apparatus, ~~that is~~ connected to an information processing process apparatus, for reading and recording, to a record medium, through transfer means and that reads information from a record medium and records content information thereto, content information being encrypted according to ~~content information encryption method~~ using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, ~~the content information being recorded to the record medium,~~ the record and reproduction apparatus comprising:

a storage unit configured to store means for storing the first encrypted key; [[,]]

a second encrypted key generation unit configured to generate means for generating the second encrypted key; [[,]]

an encryption unit configured to encrypt means for encrypting the generated second encrypted key with the first encrypted key; [[,]]

a third encrypted key generation unit configured to generate means for generating the third encrypted key; [[,]]

an encryption unit configured to encrypt means for encrypting the third encrypted key with the generated second encrypted key; [[,]]

an authentication unit configured to authenticate ~~means for authenticating~~ the information processing process apparatus and configured to generate ~~generating~~ a session key when ~~the authentication means has successfully authenticated~~ the information processing process apparatus is authenticated; [[,]]

a bus-decryption unit configured to decrypt, using the session key, ~~means for bus-~~
~~decrypting the bus-encrypted~~ content information encrypted with the third encryption key and
the session key and supplied from the information processing process apparatus; [[,]]

an encryption unit configured to encrypt ~~means for encrypting~~ the content information with the third encrypted key; [[,]] and

a record unit configured to record ~~means for recording~~ the second encrypted key, the third encrypted key, and the encrypted content information to the record medium,

wherein the ~~bus-encrypted~~ content information is the encrypted content information that has been further encrypted ~~bus-encrypted~~ with the session key generated by the information processing process apparatus.

Claim 27 (Currently Amended): The record and reproduction apparatus as set forth in claim 26, wherein the authentication unit ~~means~~ mixes a random number, that is also transferred to the information processing process apparatus, with information about ~~a type of~~ the record medium when the authentication unit ~~means~~ exchanges random number data with the information processing process apparatus.

Claim 28 (Currently Amended): The record and reproduction apparatus as set forth in claim 26, further comprising:

a first mask control unit configured to control masking of ~~means for~~ the third encrypted key; [[,]] and

a second mask control unit configured to control masking of means for the second
encrypted key,

wherein the third encrypted key and the second encrypted key are written to the
record medium ~~only~~ when the authentication means has successfully authenticated the
information processing process apparatus, ~~the third encrypted key and the second encrypted~~
~~key can be written to the record medium.~~

Claim 29 (Currently Amended): A record method of causing a record and
reproduction apparatus, and an information processing apparatus connected thereto, to read
and record ~~that reads information from a record medium and records information thereto and~~
~~an information process apparatus to which the record and reproduction apparatus is connected~~
~~through transfer step,~~ content information being encrypted ~~according to a content information~~
~~encryption method~~ using a first encrypted key managed by a management mechanism, a
second encrypted key unique to the record medium, and a third encrypted key generated
whenever information is recorded, the content information being recorded to the record
medium, the record method comprising the steps of:

storing the first encrypted key in ~~causing~~ the record and reproduction apparatus; ~~to~~
~~store the first encrypted key,~~

reproducing, in ~~causing~~ the record and reproduction apparatus, ~~to reproduce~~ the
second encrypted key encrypted and recorded on the record medium; ~~and decrypt~~

decrypting, in the record and reproduction apparatus, the second encrypted key with
the first encrypted key; [[,]]

generating, in ~~causing~~ the record and reproduction apparatus, ~~to generate~~ the third
encrypted key; [[,]]

encrypting, in causing the record and reproduction apparatus, ~~to encrypt~~ the third encrypted key with the decrypted second encrypted key; [[,]]

authenticating, in causing the record and reproduction apparatus, ~~to authenticate~~ the information processing process apparatus; and generate

generating, in the record and reproduction apparatus, a session key when the record and reproduction apparatus has successfully authenticated the information processing process apparatus is authenticated; [[,]]

encrypting, in causing the record and reproduction apparatus and with the session key, ~~to bus-encrypt~~ the second encrypted key that has been encrypted and recorded on the record medium; ~~with the session key and transfer~~

transferring the bus-encrypted second encrypted key, encrypted with the first encrypted key and the session key, to the information process apparatus; [[,]]

encrypting, in causing the record and reproduction apparatus, ~~to bus-encrypt~~ the third encrypted key with the session key; ~~and transfer the bus-encrypted~~

transferring the third encrypted key, encrypted with the session key, to the information processing process apparatus; [[,]]

decrypting, in causing the record and reproduction apparatus and with the session key, ~~to bus-decrypt the encrypted and bus-encrypted~~ content information encrypted with the third encrypted key and the session key and supplied from the information processing process apparatus; [[,]]

causing the record and reproduction apparatus to record the third encrypted key and the encrypted content information [[to]] in the record medium; [[,]]

storing, in causing the information process apparatus, ~~to store~~ the first encrypted key; [[,]]

authenticating, in causing the information process apparatus, to authenticate the
record and reproduction apparatus; ~~and generate~~

generating, in the information processing apparatus, the session key when the
~~information process apparatus has successfully authenticated the record and reproduction~~
apparatus is authenticated; [[,]]

decrypting, in causing the information processing process apparatus, the to bus-
~~decrypt the bus-encrypted~~ second encrypted key with the session key; [[,]]

further decrypting, in causing the information processing process apparatus, to
~~decrypt~~ the second encrypted key with the first encrypted key; [[,]]

decrypting, in causing the information processing process apparatus, the to bus-
~~decrypt the bus-encrypted~~ third encrypted key with the session key; [[,]]

further decrypting, in causing the information processing process apparatus, to
~~decrypt~~ the third encrypted key with the second encrypted key; [[,]]

encrypting, in causing the information processing process apparatus and with the third
encrypted key, to encrypt the content information transferred to the record and reproduction
apparatus, ~~with the third encryption, and~~

further encrypting, in causing the information processing process apparatus and with
the session key, to bus-encrypt the encrypted content information; with the session key and
send

sending the bus-encrypted content information encrypted with the third encryption
key and the session key from the information processing apparatus to the record and
reproduction apparatus.

Claim 30 (Currently Amended): The record method as set forth in claim 29, wherein
in the authenticating at the authentication step of the record and reproduction apparatus and in

~~the authenticating the authentication step~~ of the information ~~processing process~~ apparatus, a random number transferred from the record and reproduction apparatus to the information ~~processing process~~ apparatus is mixed with information about a ~~type~~ of the record medium when the ~~generated~~ random number ~~data are~~ is exchanged therebetween.

Claim 31 (Currently Amended): The record method as set forth in claim 29, wherein ~~in the authenticating at the authentication step~~ of the record and reproduction apparatus and ~~in the authenticating the authentication step~~ of the information ~~processing process~~ apparatus, a random number transferred from the record and reproduction apparatus to the information ~~processing process~~ apparatus is mixed with information about copyright when the ~~generated~~ random number ~~data are~~ is exchanged therebetween.

Claim 32 (Currently Amended): The record method as set forth in claim 29, further comprising the step of:

controlling masking of ~~mask controlling~~ the third encrypted key,

wherein the third encrypted key is written to the record medium ~~only~~ when at the ~~authentication step~~ of the record and reproduction apparatus and the ~~authentication step~~ of the information ~~processing process~~ apparatus, ~~they~~ have been mutually and successfully authenticated ~~each other, the third encrypted key can be written to the record medium.~~

Claim 33 (Currently Amended): A record method of causing a record and reproduction apparatus, and an information processing apparatus connected thereto, to read and record ~~that reads information from a record medium and records information thereto and an information process apparatus to which the record and reproduction apparatus is connected through transfer step,~~ content information being encrypted according to a content information

~~encryption method~~ using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the content information being recorded to the record medium, the record method comprising the steps of:

storing the first encrypted key in ~~causing~~ the record and reproduction apparatus; ~~to~~
~~store the first encrypted key;~~

generating, in ~~causing~~ the record and reproduction apparatus, ~~to generate~~ the second encrypted key; [[,]]

encrypting, in ~~causing~~ the record and reproduction apparatus, the ~~to encrypt~~ the generated second encrypted key with the first encrypted key; [[,]]

generating, in ~~causing~~ the record and reproduction apparatus, ~~to generate~~ the third encrypted key; [[,]]

encrypting, in ~~causing~~ the record and reproduction apparatus, ~~to encrypt~~ the third encrypted key with the generated second encrypted key; [[,]]

authenticating, in ~~causing~~ the record and reproduction apparatus, ~~to authenticate~~ the information processing process apparatus, ~~and generate~~ a session key being generated when the record and reproduction apparatus has successfully authenticated the information processing process apparatus; [[,]]

further encrypting, in ~~causing~~ the record and reproduction apparatus, ~~to bus-encrypt~~ the second encrypted key with the session key; ~~and transfers the bus-encrypted~~

transferring the further encrypted second encrypted key from the record and reproduction apparatus to the information processing process apparatus; [[,]]

further encrypting, in ~~causing~~ the record and reproduction apparatus, ~~to bus-encrypt~~ the third encrypted key with the session key; ~~and transfer the bus-encrypted~~

transferring the further encrypted third encrypted key from the record and reproduction apparatus to the information processing process apparatus; [[,]]

decrypting, in causing the record and reproduction apparatus and with the session key,
~~to bus-decrypt the encrypted and bus-encrypted~~ content information encrypted with the third encrypted key and the session key and supplied from the information processing process apparatus; ~~and~~

causing the record and reproduction apparatus to record the second encrypted key, the third encrypted key, and the encrypted content information to the record medium; ~~and~~

storing the first encrypted key in causing the information processing process apparatus; ~~to store the first encrypted key,~~

authenticating, in causing the information processing process apparatus, ~~to~~
~~authenticate~~ the record and reproduction apparatus, ~~and generate~~ the session key being generated when the information processing process apparatus has successfully authenticated the record and reproduction apparatus; [[,]]

decrypting, in causing the information processing process apparatus, ~~the to bus-~~
~~decrypt the bus-encrypted~~ second encrypted key with the session key,

further decrypting, in causing the information processing process apparatus, ~~to~~
~~decrypt~~ the second encrypted key with the first encrypted key; [[,]]

decrypting, in causing the information processing process apparatus, ~~the to bus-~~
~~decrypt the bus-encrypted~~ third encrypted key with the session key; [[,]]

further decrypting, in causing the information processing process apparatus, ~~to~~
~~decrypt~~ the third encrypted key with the second encrypted key; [[,]]

encrypting, in causing the information processing process apparatus and with the third encrypted key, ~~to encrypt~~ the content information transferred to the record and reproduction apparatus; ~~with the third encryption, and~~

further encrypting, in causing the information processing process apparatus, to bus-
~~encrypt~~ the encrypted content information with the session key; and ~~send the bus-encrypted~~
sending the further encrypted content information from the information processing
apparatus to the record and reproduction apparatus.

Claim 34 (Currently Amended): The record method as set forth in claim 33, wherein
in the authenticating at the authentication step of the record and reproduction apparatus and in
the authenticating the authentication step of the information processing process apparatus, a
random number transferred from the record and reproduction apparatus to the information
processing process apparatus is mixed with information about ~~a type of~~ the record medium
when [[the]] generated random number data are exchanged therebetween.

Claim 35 (Currently Amended): The record method as set forth in claim 33, wherein
in the authenticating at the authentication step of the record and reproduction apparatus and in
the authenticating the authentication step of the information processing process apparatus, a
random number transferred from the record and reproduction apparatus to the information
processing process apparatus is mixed with information about copyright when [[the]]
generated random number data are exchanged therebetween.

Claim 36 (Currently Amended): The record method as set forth in claim 33, further
comprising the steps of:

controlling masking of mask-controlling the third encrypted key; [[,]] and
controlling masking of mask-controlling the second encrypted key,
wherein the third encrypted key and the second encrypted key are written to the
record medium only when ~~at the authentication step of~~ the record and reproduction apparatus

and ~~the authentication step of the information processing process apparatus, they~~ have been mutually and successfully authenticated each other, ~~the third encrypted key and the second encrypted key can be written to the record medium.~~

Claim 37 (Currently Amended): A record method of causing a record and reproduction apparatus, and an information processing apparatus connected thereto, to read and record ~~that reads information from a record medium and records information thereto and an information process apparatus to which the record and reproduction apparatus is connected through transfer step,~~ content information being encrypted according to ~~a content information encryption method~~ using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the content information being recorded to the record medium, the record method comprising the steps of:

storing the first encrypted key in ~~causing~~ the record and reproduction apparatus; ~~to store the first encrypted key,~~

reproducing, in ~~causing~~ the record and reproduction apparatus, ~~to reproduce the second encrypted key encrypted and recorded on the record medium; and decrypt~~

decrypting the second encrypted key with the first encrypted key; [[,]]

generating, in ~~causing~~ the record and reproduction apparatus, ~~to generate the third encrypted key; [[,]]~~

encrypting, in ~~causing~~ the record and reproduction apparatus, ~~to encrypt the third encrypted key with the decrypted second encrypted key; [[,]]~~

authenticating, in ~~causing~~ the record and reproduction apparatus, ~~to authenticate the information processing process apparatus, and generate a session key being generated~~ when

the record and reproduction apparatus has successfully authenticated the information

processing process apparatus; [[,]]

decrypting, in causing the record and reproduction apparatus and with the session key,
~~to bus decrypt the bus-encrypted~~ content information encrypted with the session key and
supplied from the information processing process apparatus; [[,]]

encrypting, in causing the record and reproduction apparatus, ~~to encrypt~~ the content
information with the third encrypted key; [[,]]

causing the record and reproduction apparatus to record the third encrypted key and
the encrypted content information to the record medium; ~~and~~

authenticating, in causing the information processing process apparatus, ~~to~~
~~authenticate~~ the record and reproduction apparatus, ~~and generate~~ the session key being
generated when the information processing process apparatus has successfully authenticated
the record and reproduction apparatus; ~~and~~

encrypting, in causing the information processing process apparatus and with the
session key, ~~to bus-encrypt~~ content information transferred to the record and reproduction
apparatus; ~~with the session key and send the bus-encrypted~~

sending the encrypted content information from the information processing apparatus
to the record and reproduction apparatus.

Claim 38 (Currently Amended): The record method as set forth in claim 37, wherein
in the authenticating at the authentication step of the record and reproduction apparatus and in
the authenticating the authentication step of the information processing process apparatus, a
random number transferred from the record and reproduction apparatus to the information
processing process apparatus is mixed with information about ~~a type of~~ the record medium
when [[the]] generated random number data are exchanged therebetween.

Claim 39 (Currently Amended): The record method as set forth in claim 37, wherein in the authenticating at the authentication step of the record and reproduction apparatus and in the authenticating the authentication step of the information processing process apparatus, a random number transferred from the record and reproduction apparatus to the information processing process apparatus is mixed with information about copyright when ~~[[the]]~~ generated random number data are exchanged therebetween.

Claim 40 (Currently Amended): The record method as set forth in claim 37, further comprising the step of:

controlling masking of mask ~~controlling~~ the third encrypted key,

wherein the third encrypted key is written to the record medium only when ~~at the authentication step~~ of the record and reproduction apparatus and ~~the authentication step~~ of the information processing process apparatus, ~~they~~ have been mutually and successfully authenticated ~~each other, the third encrypted key can be written to the record medium.~~

Claim 41 (Currently Amended): A record method of causing a record and reproduction apparatus, and an information processing apparatus connected thereto, to read and record ~~that reads information from a record medium and records information thereto and an information process apparatus to which the record and reproduction apparatus is connected through transfer step,~~ content information ~~being encrypted according to a content information encryption method~~ using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the content information being recorded to the record medium, the record method comprising the steps of:

storing the first encrypted key in ~~causing~~ the record and reproduction apparatus; ~~to~~
~~store the first encrypted key;~~

generating, in ~~causing~~ the record and reproduction apparatus, ~~to generate~~ the second
encrypted key; [[,]]

encrypting, in ~~causing~~ the record and reproduction apparatus, ~~to encrypt~~ the generated
second encrypted key with the first encrypted key; [[,]]

generating, in ~~causing~~ the record and reproduction apparatus, ~~to generate~~ the third
encrypted key; [[,]]

encrypting, in ~~causing~~ the record and reproduction apparatus, ~~to encrypt~~ the third
encrypted key with the generated second encrypted key; [[,]]

authenticating, in ~~causing~~ the record and reproduction apparatus, ~~to authenticate~~ the
information processing process apparatus, ~~and generate~~ a session key being generated when
the record and reproduction apparatus has successfully authenticated the information
processing process apparatus; [[,]]

decrypting, in ~~causing~~ the record and reproduction apparatus, ~~to bus decrypt the bus-~~
~~encrypted~~ content information encrypted with the session key and supplied from the
information processing process apparatus; [[,]]

encrypting, in ~~causing~~ the record and reproduction apparatus, ~~to encrypt~~ the content
information with the third encrypted key; [[,]]

causing the record and reproduction apparatus to record the second encrypted key, the
third encrypted key, and the encrypted content information to the record medium; [[,]]

authenticating, in ~~causing~~ the information processing process apparatus, ~~to~~
~~authenticate~~ the record and reproduction apparatus, ~~and generate~~ the session key being
generated when the information processing process apparatus has successfully authenticated
the record and reproduction apparatus; ~~and~~

encrypting, in causing the information processing process apparatus, to bus-encrypt
content information with the session key; and ~~send the bus-encrypted~~
sending the encrypted content information to the record and reproduction apparatus.

Claim 42 (Currently Amended): The record method as set forth in claim 41, wherein
in the authenticating at the authentication step of the record and reproduction apparatus and in
the authenticating the authentication step of the information processing process apparatus, a
random number transferred from the record and reproduction apparatus to the information
processing process apparatus is mixed with information about a type of the record medium
when [[the]] generated random number data are exchanged therebetween.

Claim 43 (Currently Amended): The record method as set forth in claim 41, wherein
in the authenticating at the authentication step of the record and reproduction apparatus and in
the authenticating the authentication step of the information processing process apparatus, a
random number transferred from the record and reproduction apparatus to the information
processing process apparatus is mixed with information about copyright when [[the]]
generated random number data are exchanged therebetween.

Claim 44 (Currently Amended): The record method as set forth in claim 41, further
comprising the steps of:

controlling masking of mask-controlling the third encrypted key; [[.]] and
controlling masking of mask-controlling the second encrypted key,
wherein the third encrypted key and the second encrypted key are written to the
record medium only when ~~at the authentication step of the record and reproduction apparatus~~
and ~~the authentication step of the information processing process apparatus,~~ they have been

mutually and successfully authenticated each other, ~~the third encrypted key and the second encrypted key can be written to the record medium.~~

Claim 45 (Currently Amended): A computer-readable medium storing computer-readable instructions thereon for recording program of a record method of a record and reproduction apparatus that reads information from a record medium and records information thereto and an information process apparatus to which the record and reproduction apparatus is connected through transfer step, content information on a record medium being encrypted according to a content information encryption method using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the computer-readable instructions when executed by a processor cause the processor to perform the method comprising content information being recorded to the record medium, the record method comprising the steps of:

storing the first encrypted key in a ~~causing the~~ record and reproduction apparatus; ~~to~~
~~store the first encrypted key;~~

reproducing, in ~~causing the~~ record and reproduction apparatus, ~~to reproduce the~~
second encrypted key encrypted and recorded on the record medium;

encrypting, in the record and reproduction apparatus, and decrypt the second
encrypted key with the first encrypted key; [[,]]

generating, in ~~causing the~~ record and reproduction apparatus, ~~to generate the third~~
encrypted key; [[,]]

encrypting, in ~~causing the~~ record and reproduction apparatus, ~~to encrypt the third~~
encrypted key with the decrypted second encrypted key; [[,]]

authenticating, in causing the record and reproduction apparatus, ~~an~~ to authenticate
the information processing process apparatus connected to the record and reproduction
apparatus; and generate

generating, in the record and reproduction apparatus, a session key when the record
and reproduction apparatus has successfully authenticated the information processing process
apparatus; [[,]]

further encrypting, in causing the record and reproduction apparatus and with the
session key, to ~~bus-encrypt~~ the second encrypted key that has been encrypted and recorded on
the record medium; with the session key and transfer the ~~bus-encrypted~~

transferring the further encrypted second encrypted key from the record and
reproduction apparatus to the information processing process apparatus; [[,]]

further encrypting, in causing the record and reproduction apparatus, to ~~bus-encrypt~~
the third encrypted key with the session key; and transfer the ~~bus-encrypted~~

transferring the further encrypted third encrypted key from the record and
reproduction apparatus to the information processing process apparatus; [[,]]

decrypting, in causing the record and reproduction apparatus and with the session key,
to ~~bus-decrypt the encrypted and bus-encrypted~~ content information encrypted with the third
encrypted key and the session key and supplied from the information processing process
apparatus; [[,]]

causing the record and reproduction apparatus to record the third encrypted key and
the encrypted content information to the record medium; [[,]]

storing the first encrypted key in causing the information processing process
apparatus; to ~~store the first encrypted key,~~

authenticating, in causing the information processing process apparatus, to
authenticate the record and reproduction apparatus; and generate

generating, in the information processing apparatus, the session key when the information processing ~~process~~ apparatus has successfully authenticated the record and reproduction apparatus; [[,]]

decrypting, in causing the information processing ~~process~~ apparatus and with the session key, the to bus-decrypt the bus-encrypted second encrypted key with encrypted with the first encrypted key and the session key; [[,]]

further decrypting, in causing the information processing ~~process~~ apparatus, to decrypt the second encrypted key with the first encrypted key; [[,]]

decrypting, in causing the information processing ~~process~~ apparatus and with the session key, the to bus-decrypt the bus-encrypted third encrypted key encrypted with the second encrypted key and with the session key; [[,]]

further decrypting, in causing the information processing ~~process~~ apparatus, to decrypt the third encrypted key with the second encrypted key; [[,]]

encrypting, in causing the information processing ~~process~~ apparatus and with the third encrypted key, to encrypt the content information transferred to the record and reproduction apparatus; with the third encryption, and

further encrypting, in causing the information to processing ~~process~~ apparatus, to bus-encrypt the encrypted content information with the session key; and send the bus-encrypted

sending the further encrypted content information from the information processing apparatus to the record and reproduction apparatus.

Claim 46 (Currently Amended): A computer-readable medium storing computer-readable instructions thereon for recording program of a record method of a record and reproduction apparatus that reads information from a record medium and records information thereto and an information process apparatus to which the record and reproduction apparatus

~~is connected through transfer step,~~ content information on a record medium being encrypted
~~according to a content information encryption method~~ using a first encrypted key managed by
a management mechanism, a second encrypted key unique to the record medium, and a third
encrypted key generated whenever information is recorded, the computer-readable
instructions when executed by a processor cause the processor to perform the method
comprising content information being recorded to the record medium, the record method
comprising the steps of:

storing the first encrypted key in a ~~causing the record and reproduction apparatus; to~~
~~store the first encrypted key;~~

generating, in ~~causing the record and reproduction apparatus; to generate the second~~
encrypted key; [[,]]

encrypting, in ~~causing the record and reproduction apparatus; to encrypt the generated~~
second encrypted key with the first encrypted key; [[,]]

generating, in ~~causing the record and reproduction apparatus; to generate the third~~
encrypted key; [[,]]

encrypting, in ~~causing the record and reproduction apparatus; to encrypt the third~~
encrypted key with the ~~generated~~ second encrypted key; [[,]]

authenticating, in ~~causing the record and reproduction apparatus; an~~ ~~to authenticate~~
~~the information processing process apparatus~~ connected to the record and reproduction
apparatus; and generate

generating, in the record and reproduction apparatus, a session key when the record
and reproduction apparatus has successfully authenticated the information processing process
apparatus; [[,]]

further encrypting, in ~~causing the record and reproduction apparatus; to bus-encrypt~~
the second encrypted key with the session key; ~~and transfers the bus-encrypted~~

transferring the further encrypted second encrypted key from the record and reproduction apparatus to the information processing process apparatus; [[,]]

further encrypting, in causing the record and reproduction apparatus, to bus-encrypt the third encrypted key with the session key; and transfer the bus-encrypted

transferring the further encrypted third encrypted key from the record and reproduction apparatus to the information processing process apparatus; [[,]]

decrypting, in causing the record and reproduction apparatus and with the session key, to bus-decrypt the encrypted and bus-encrypted content information encrypted with the third encrypted key and the session key and supplied from the information processing process apparatus; and

causing the record and reproduction apparatus to record the second encrypted key, the third encrypted key, and the encrypted content information to the record medium; and

storing the first encrypted key in causing the information processing process apparatus; to store the first encrypted key;

authenticating, in causing the information processing process apparatus, to authenticate the record and reproduction apparatus; and generate

generating, in the information processing apparatus, the session key when the information processing process apparatus has successfully authenticated the record and reproduction apparatus; [[,]]

decrypting, in causing the information processing process apparatus and with the session key, the to bus-decrypt the bus-encrypted second encrypted key encrypted with the first encrypted key and with the session key; [[,]]

further decrypting, in causing the information processing process apparatus, to decrypt the second encrypted key with the first encrypted key; [[,]]

decrypting, in causing the information processing process apparatus and with the session key, the to bus-decrypt the bus-encrypted third encrypted key encrypted with the second encrypted key and with the session key; [[,]]

further decrypting, in causing the information processing process apparatus, to decrypt the third encrypted key with the second encrypted key; [[,]]

encrypting, in causing the information processing process apparatus and with the third encrypted key, to encrypt the content information transferred from the information processing apparatus to the record and reproduction apparatus; with the third encryption, and

further encrypting, in causing the information processing process apparatus, to bus-encrypt the encrypted content information with the session key; and send the bus-encrypted

sending the further encrypted content information from the information processing apparatus to the record and reproduction apparatus.

Claim 47 (Currently Amended): A computer-readable medium storing computer-readable instructions thereon for recording program of a record method of a record and reproduction apparatus that reads information from a record medium and records information thereto and an information process apparatus to which the record and reproduction apparatus is connected through transfer step, content information on a record medium being encrypted according to a content information encryption method using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the computer-readable instructions when executed by a processor cause the processor to perform the method comprising content information being recorded to the record medium, the record method comprising the steps of:

storing the first encrypted key in a ~~causing the~~ record and reproduction apparatus; ~~to store the first encrypted key;~~

reproducing, in the ~~causing the~~ record and reproduction apparatus, ~~to reproduce the~~ second encrypted key encrypted and recorded on the record medium; ~~and decrypt~~

decrypting, in the record and reproduction apparatus, the second encrypted key with the first encrypted key; [[,]]

generating, in ~~causing the~~ record and reproduction apparatus, ~~to generate the third~~ encrypted key; [[,]]

encrypting, in ~~causing the~~ record and reproduction apparatus, ~~to encrypt the third~~ encrypted key with the decrypted second encrypted key; [[,]]

authenticating, in ~~causing the~~ record and reproduction apparatus, ~~an~~ ~~to authenticate~~ the information processing process apparatus connected to the record and reproduction apparatus; ~~and generate~~

generating, in the record and reproduction apparatus, a session key when the record and reproduction apparatus has successfully authenticated the information processing process apparatus; [[,]]

decrypting, in ~~causing the~~ record and reproduction apparatus and with the session key, ~~to bus-decrypt the bus-encrypted~~ content information encrypted with the session key and supplied from the information processing process apparatus; [[,]]

encrypting, in ~~causing the~~ record and reproduction apparatus, ~~to encrypt the content~~ information with the third encrypted key; [[,]]

causing the record and reproduction apparatus to record the third encrypted key and the encrypted content information to the record medium; ~~and~~

authenticating, in ~~causing the~~ information processing process apparatus, ~~to~~ ~~authenticate~~ the record and reproduction apparatus; ~~and generate~~

generating, in the information processing apparatus, the session key when the information processing process apparatus has successfully authenticated the record and reproduction apparatus; ~~and~~

encrypting, in ~~causing~~ the information process apparatus and with the session key, to ~~bus-encrypt~~ content information transferred to the record and reproduction apparatus; and ~~with the session key and send the bus-encrypted~~

sending the encrypted content information from the information processing apparatus to the record and reproduction apparatus.

Claim 48 (Currently Amended): A computer-readable medium storing computer-readable instructions thereon for recording program of a record method of a record and reproduction apparatus that reads information from a record medium and records information thereto and an information process apparatus to which the record and reproduction apparatus is connected through transfer step, content information on a record medium being encrypted according to a content information encryption method using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the computer-readable instructions when executed by a processor cause the processor to perform the method comprising content information being recorded to the record medium, the record method comprising the steps of:

storing the first encrypted key in ~~causing~~ the record and reproduction apparatus; ~~to store the first encrypted key,~~

generating, in ~~causing~~ the record and reproduction apparatus, ~~to generate~~ the second encrypted key; [[,]]

encrypting, in causing the record and reproduction apparatus_i ~~to encrypt~~ the generated second encrypted key with the first encrypted key; [[,]]

generating, in causing the record and reproduction apparatus_i ~~to generate~~ the third encrypted key; [[,]]

encrypting, in causing the record and reproduction apparatus_i ~~to encrypt~~ the third encrypted key with the generated second encrypted key; [[,]]

authenticating, in causing the record and reproduction apparatus_i ~~an~~ ~~to authenticate~~ the information processing process apparatus connected to the record and reproduction apparatus_i ~~and generate~~

generating, in the record and reproduction apparatus_i, a session key when the record and reproduction apparatus has successfully authenticated the information processing process apparatus_i; [[,]]

decrypting, in causing the record and reproduction apparatus_i ~~to bus-decrypt~~ the bus-encrypted content information encrypted with the session key and supplied from the information process apparatus_i; [[,]]

encrypting, in causing the record and reproduction apparatus_i ~~to encrypt~~ the content information with the third encrypted key,

causing the record and reproduction apparatus to record the second encrypted key, the third encrypted key, and the encrypted content information to the record medium; [[,]]

authenticating, in causing the information processing process apparatus_i ~~to~~ ~~authenticate~~ the record and reproduction apparatus_i ~~and generate~~

generating, in the information processing apparatus_i, the session key when the information processing process apparatus has successfully authenticated the record and reproduction apparatus_i; ~~and~~

encrypting, in ~~causing~~ the information processing process ~~apparatus, to bus-encrypt~~
content information with the session key; and ~~send the bus-encrypted~~

sending the encrypted content information from the information processing apparatus
to the record and reproduction apparatus.

Claim 49 (Currently Amended): A computer-readable medium storing computer-
readable instructions thereon for recording program of a record method of a record and
reproduction apparatus that reads information from a record medium and records information
thereto and an information process apparatus to which the record and reproduction apparatus
is connected through transfer step, content information on a record medium being encrypted
according to a content information encryption method using a first encrypted key managed by
a management mechanism, a second encrypted key unique to the record medium, and a third
encrypted key generated whenever information is recorded, the computer-readable
instructions when executed by a processor cause the processor to perform the method
comprising content information being recorded to the record medium, the record method
comprising the steps of:

storing the first encrypted key in a ~~causing~~ the record and reproduction apparatus; ~~to~~
~~store the first encrypted key,~~

reproducing, in ~~causing~~ the record and reproduction apparatus, ~~to reproduce~~ the
second encrypted key encrypted and recorded on the record medium; and ~~decrypt~~

decrypting, in the record and reproduction apparatus, the second encrypted key with
the first encrypted key; [[,]]

generating, in ~~causing~~ the record and reproduction apparatus, ~~to generate~~ the third
encrypted key; [[,]]

encrypting, in causing the record and reproduction apparatus, ~~to encrypt~~ the third encrypted key with the decrypted second encrypted key; [[,]]

authenticating, in causing the record and reproduction apparatus, ~~an~~ to authenticate the information processing process apparatus connected to the record and reproduction apparatus; and generate

generating, in the record and reproduction apparatus, a session key when the record and reproduction apparatus has successfully authenticated the information processing process apparatus; [[,]]

further encrypting, in causing the record and reproduction apparatus and with the session key, ~~to bus-encrypt~~ the second encrypted key that has been encrypted and recorded on the record medium; ~~with the session key and transfer the bus-encrypted~~

transferring the further encrypted second encrypted key from the record and reproduction apparatus to the information processing process apparatus; [[,]]

further encrypting, in causing the record and reproduction apparatus and with the session key, ~~to bus-encrypt~~ the third encrypted key ~~with the session key and transfer the bus-encrypted~~

transferring the further encrypted third encrypted key from the record and reproduction apparatus to the information processing process apparatus; [[,]]

decrypting, in causing the record and reproduction apparatus and with the session key, ~~to bus-decrypt the encrypted and bus-encrypted~~ content information encrypted with the session key and supplied from the information processing process apparatus; [[,]]

causing the record and reproduction apparatus to record the third encrypted key and the encrypted content information to the record medium; [[,]]

storing the first encrypted key in the causing the information processing process apparatus; ~~to store the first encrypted key,~~

authenticating, in causing the information processing process apparatus, to
authenticate the record and reproduction apparatus; and generate

generating, in the information processing apparatus, the session key when the
information processing process apparatus has successfully authenticated the record and
reproduction apparatus; [[,]]

decrypting, in causing the information processing process apparatus and with the
session key, to bus-decrypt the bus-encrypted second encrypted key encrypted with the first
encrypted key and the session key; with the session key,

further decrypting, in causing the information processing process apparatus, to
decrypt the second encrypted key with the first encrypted key; [[,]]

decrypting, in causing the information processing process apparatus, the to-bus-
decrypt the bus-encrypted third encrypted key with the session key; [[,]]

further decrypting, in causing the information processing process apparatus, to
decrypt the third encrypted key with the second encrypted key; [[,]]

encrypting, in causing the information processing process apparatus and with the third
encrypted key, to-encrypt the content information transferred from the information processing
apparatus to the record and reproduction apparatus; with the third-encryption, and

further encrypting, in causing the information processing process apparatus, to-bus-
encrypt the encrypted content information with the session key; and send the bus-encrypted

sending the further encrypted content information from the information processing
apparatus to the record and reproduction apparatus.

Claim 50 (Currently Amended): A computer-readable medium storing computer-
readable instructions thereon for recording program of a record method of a record and
reproduction apparatus that reads information from a record medium and records information

~~thereto and an information process apparatus to which the record and reproduction apparatus is connected through transfer step,~~ content information on a record medium ~~being encrypted according to a content information encryption method~~ using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the computer-readable instructions when executed by a processor cause the processor to perform the method comprising content information being recorded to the record medium, the record method comprising the steps of:

storing the first encrypted key in a ~~causing the record and reproduction apparatus; to~~
~~store the first encrypted key,~~

generating, in ~~causing the record and reproduction apparatus, to generate the second~~
~~encrypted key; [[,]]~~

encrypting, in ~~causing the record and reproduction apparatus, the~~ ~~to encrypt the~~
~~generated second encrypted key with the first encrypted key; [[,]]~~

generating, in ~~causing the record and reproduction apparatus, to generate the third~~
~~encrypted key; [[,]]~~

encrypting, in ~~causing the record and reproduction apparatus, to encrypt the third~~
~~encrypted key with the generated second encrypted key; [[,]]~~

authenticating, in ~~causing the record and reproduction apparatus, an~~ ~~to authenticate~~
~~the information processing process apparatus connected to the record and reproduction~~
~~apparatus; and generate~~

generating, in the record and reproduction apparatus, a session key when the record
and reproduction apparatus has successfully authenticated the information processing process
apparatus; [[,]]

further encrypting, in causing the record and reproduction apparatus, ~~to bus-encrypt~~
the second encrypted key with the session key; ~~and transfers the bus-encrypted~~

transferring the further encrypted second encrypted key from the record and
reproduction apparatus to the information processing process apparatus; [[,]]

further encrypting, in causing the record and reproduction apparatus, ~~to bus-encrypt~~
the third encrypted key with the session key; ~~and transfer the bus-encrypted~~

transferring the further encrypted third encrypted key from the record and
reproduction apparatus to the information processing process apparatus; [[,]]

decrypting, in causing the record and reproduction apparatus, ~~to bus-decrypt~~ the
~~encrypted and bus-encrypted~~ content information encrypted with the third encrypted key and
the session key and supplied from the information process apparatus; ~~and~~

causing the record and reproduction apparatus to record the second encrypted key, the
third encrypted key, and the encrypted content information to the record medium; ~~and~~

storing the first encrypted key in causing the information processing process
apparatus; ~~to store the first encrypted key;~~

authenticating, in causing the information processing process apparatus, ~~to~~
~~authenticate~~ the record and reproduction apparatus; ~~and generate~~

generating, in the information processing apparatus, the session key when the
information processing process apparatus has successfully authenticated the record and
reproduction apparatus; [[,]]

decrypting, in causing the information processing process apparatus, ~~to bus-decrypt~~
~~the bus-encrypted~~ second encrypted key with the session key,

further decrypting, in causing the information processing process apparatus, ~~to~~
~~decrypt~~ the second encrypted key with the first encrypted key; [[,]]

decrypting, in ~~causing~~ the information processing process apparatus, ~~to bus-decrypt~~
~~the bus-encrypted~~ third encrypted key with the session key; [[,]]

further decrypting, in ~~causing~~ the information processing process apparatus, ~~to~~
~~decrypt~~ the third encrypted key with the second encrypted key; [[,]]

encrypting, in ~~causing~~ the information processing process apparatus, ~~to-encrypt~~ the
content information transferred to the record and reproduction apparatus with the third
encryption key; ~~and~~

further encrypting, in ~~causing~~ the information processing process apparatus, ~~to bus-~~
~~encrypt~~ the encrypted content information with the session key; ~~and send the bus-encrypted~~

sending the further encrypted content information from the information processing
apparatus to the record and reproduction apparatus.

Claim 51 (Currently Amended): A computer-readable medium storing computer-
readable instructions thereon for recording program of a record method of a record and
reproduction apparatus that reads information from a record medium and records information
thereto and an information process apparatus to which the record and reproduction apparatus
is connected through transfer step, content information on a record medium being encrypted
according to a content information encryption method using a first encrypted key managed by
a management mechanism, a second encrypted key unique to the record medium, and a third
encrypted key generated whenever information is recorded, the computer-readable
instructions when executed by a processor cause the processor to perform the method
comprising content information being recorded to the record medium, the record method
comprising the steps of:

storing the first encrypted key in a ~~causing the~~ record and reproduction apparatus; ~~to~~
~~store the first encrypted key,~~

reproducing, in causing the record and reproduction apparatus, ~~to reproduce~~ the second encrypted key encrypted and recorded on the record medium; ~~and decrypt~~

decrypting, in the record and reproduction apparatus, the second encrypted key with the first encrypted key; [[,]]

generating, in causing the record and reproduction apparatus, ~~to generate~~ the third encrypted key; [[,]]

encrypting, in causing the record and reproduction apparatus, ~~to encrypt~~ the third encrypted key with the decrypted second encrypted key; [[,]]

authenticating, in causing the record and reproduction apparatus, ~~an~~ ~~to authenticate~~ the information processing process apparatus connected to the record and reproduction apparatus; ~~and generate~~

generating, in the record and reproduction apparatus, a session key when the record and reproduction apparatus has successfully authenticated the information processing process apparatus;

decrypting, in causing the record and reproduction apparatus and with the session key, ~~to bus-decrypt the bus-encrypted~~ content information supplied from the information processing process apparatus; [[,]]

encrypting, in causing the record and reproduction apparatus, ~~to encrypt~~ the content information with the third encrypted key; [[,]]

causing the record and reproduction apparatus to record the third encrypted key and the encrypted content information to the record medium; ~~and~~

authenticating, in causing the information processing process apparatus, ~~to~~ ~~authenticate~~ the record and reproduction apparatus; ~~and generate~~

generating, in the information processing apparatus, the session key when the information processing process apparatus has successfully authenticated the record and reproduction apparatus; ~~and~~

encrypting, in causing the information processing process apparatus and with the session key, to bus-encrypt content information transferred to the record and reproduction apparatus; ~~with the session key and send the bus-encrypted~~

sending the encrypted content information from the information processing apparatus to the record and reproduction apparatus.

Claim 52 (Currently Amended): A computer-readable medium storing computer-readable instructions thereon for recording program of a record method of a record and reproduction apparatus that reads information from a record medium and records information thereto and an information process apparatus to which the record and reproduction apparatus is connected through transfer step; content information on a record medium being encrypted according to a content information encryption method using a first encrypted key managed by a management mechanism, a second encrypted key unique to the record medium, and a third encrypted key generated whenever information is recorded, the computer-readable instructions when executed by a processor cause the processor to perform the method comprising content information being recorded to the record medium, the record method comprising the steps of:

storing the first encrypted key in a causing the record and reproduction apparatus; to store the first encrypted key;

generating, in causing the record and reproduction apparatus, to generate the second encrypted key; [[,]]

encrypting, in causing the record and reproduction apparatus, ~~to encrypt~~ the generated second encrypted key with the first encrypted key; [[,]]

generating, in causing the record and reproduction apparatus, ~~to generate~~ the third encrypted key; [[,]]

encrypting, in causing the record and reproduction apparatus, ~~to encrypt~~ the third encrypted key with the generated second encrypted key; [[,]]

authenticating, in causing the record and reproduction apparatus, ~~an~~ ~~to authenticate~~ the information processing process apparatus connected to the record and reproduction apparatus; ~~and generate~~

generating, in the record and reproduction apparatus, a session key when the record and reproduction apparatus has successfully authenticated the information processing process apparatus; [[,]]

decrypting, in causing the record and reproduction apparatus, ~~to bus-decrypt~~ the bus-encrypted content information encrypted with the session key and supplied from the information processing process apparatus; [[,]]

encrypting, in causing the record and reproduction apparatus, ~~to encrypt~~ the content information with the third encrypted key; [[,]]

causing the record and reproduction apparatus to record the second encrypted key, the third encrypted key, and the encrypted content information to the record medium; [[,]]

authenticating, in causing the information processing process apparatus, ~~to~~ ~~authenticate~~ the record and reproduction apparatus; ~~and generate~~

generating, in the information processing apparatus, the session key when the information processing process apparatus has successfully authenticated the record and reproduction apparatus; ~~and~~

encrypting, in causing the information processing process apparatus and with the session key, to bus-encrypt content information; and with the session key and send the bus-encrypted

sending the encrypted content information from the information processing apparatus
to the record and reproduction apparatus.

Claim 53 (Previously Presented): A system for recording encrypted audio visual data on a medium comprising:

a drive for recording an information onto the medium and a host computer, connected to the recorder, to control said drive wherein

said drive includes:

a random number generator for generating a random number;

a first transmitter for transmitting said random number;

a recording unit for recording said random number onto the medium; and

said host computer includes:

a first receiver for receiving said random number;

an encrypting unit for encrypting audio visual data using said receiving random number;

a second transmitter for transmitting said encrypted audio visual data to said drive; and

wherein said drive further includes:

a second receiving unit for receiving encrypted audio visual data transmitted by said second transmitting; and

said recording further recording audio visual data received by said second receiving unit onto the medium.